

The Failure of the Atlantic Coast Pipeline to Demonstrate Economic Development Benefit to the NC Department of Environmental Quality and the Public of North Carolina

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This report provides strong evidence to contravene the Atlantic Coast Pipeline's (ACP's) assertion that the ACP will provide jobs and economic development to Johnston, Cumberland and Robeson Counties, while doing little damage in terms of cumulative impacts. These statements by the ACP are plainly false, as discussed below.

1. The likelihood that the ACP will bring economic development to Johnston, Cumberland and Robeson Counties in North Carolina is not true, as demonstrated by the facts below;
2. ACP asserts that the cumulative impacts of the ACP in Johnston, Cumberland and Robeson Counties will be minor, whereas the real cumulative impacts will be substantial and the damage will be irreversible.

In response to the Request for Additional Information from the NC Department of Environmental Quality to the Atlantic Coast Pipeline (dated December 14, 2017), Mr. Richard Gangle of Dominion Energy submitted a Revised "Cumulative Impacts Assessment for Johnston, Cumberland, and Robeson Counties, North Carolina." (dated December 20, 2017). This ACP report concludes that the proposed pipeline will encourage economic development and that its cumulative impacts are minor.

Contrary to its economic development claims and submissions to the NC DEQ, the ACP report fails to make a valid or reliable case to support such claims. This critique is based on the following 22 findings:

1. The analysis in the 12/20/17 filing is supposed to be "qualitative", but actually includes no additional concrete data, only a recitation of demographics;
2. The report states that the ACP will increase population, but doesn't say specifically how or why, and its answers imply that simply because these three counties have an ample supply of undeveloped land, this alone will create economic development. A much more reliable assessment is that the (so-called) "positive" effects of having more natural gas available will be outweighed by the negative effects from pollution, noise and increased fire and safety hazards, and loss of revenue due to major decreases in

property values that are well researched and documented and have already begun along the proposed ACP route.

3.The ACP response states that increased availability of natural gas will create economic development, yet the vast majority of gas will be utilized by Dominion and Duke Energy, its owners, for private, electric generation. Simply stating how much gas is used by different end-users (i.e. power plants, residential or industrial use) does not automatically result in economic development. Since the vast majority of gas is going to power plants that Dominion and Duke Energy already own, issues of self-dealing and misrepresentation of development claims are valid.

4.The ACP response implies that the pipeline will increase economic development in Johnston County, while acknowledging that the real driver of economic development in that county is its proximity to the Research Triangle Park. There is no reason to believe that the ACP in and of itself will drive economic development in Johnston County. If that were the case, the ACP would have provided the names of companies, as requested by NC DEQ, that would open up new businesses due to the increased availability of gas (page 7).

5. The ACP response implies that the pipeline will increase economic development in Cumberland County, while acknowledging that the military bases (Fort Bragg and Pope Air Force Base) are the primary drivers of economic development in Cumberland. The report provides no evidence to support the assertion that the proposed pipeline will provide any direct economic development value in Cumberland County. The response names existing companies in the county, but doesn't mention any new ones that would build businesses in Cumberland County as a result of the ACP.

6. The ACP response admits that the economic development effects in Robeson County will be limited, while Robeson will be burdened with major additional infrastructure, that is disclosed for the first time. In spite of new disclosures of specific development projects, there are absolutely no details or analysis of the purpose, use, and impact of this new, proposed infrastructure provided by the ACP as requested by the DEQ. Also, there is no acknowledgement of the additional risks to the public and environment, including water sources and resources, from these newly disclosed, proposed developments. In addition, there is no acknowledgment of the increased pollution, noise, and visual obstruction that will occur as a result of placing a Metering and Regulating Station and 350 ft. tower in a well-populated area and major intersection in

the heart of the Native American community that leads to Pembroke and the University of NC – Pembroke from the north side of town.

The report also references the placement of two taps along the pipeline route in Robeson County as well as a railroad yard with gas infrastructure. It also makes references to the former coal-fired Weatherspoon Plant in Lumberton with no specifics. In relation to all three of these additional developments that are disclosed for the first time, there is no explanation of their purpose, use, and scale. Unanswered questions include the following. Attachment 1 mentions “line taps”, but fails to give even a single detail about what these taps are, where they will be located, and how they operate. Similarly, descriptions such as “piping modifications” are glossed over and never explained, including “install tap for solar facility.” Why would a solar facility need a natural gas tap? Perhaps they are referring to the confusingly-named “Solar Centaur” compressor, which is actually powered by natural gas? If so, this borders on fraudulently misleading. What will these taps be used for? What additional infrastructure will these taps and railroad yard require in order to fulfill their undisclosed purpose? What are the plans for the former coal-fired Weatherspoon Plant in Lumberton? Why aren’t the details requested by DEQ to identify and document specific, development and impact projects within each county provided? Given these additional and extensive developments of the proposed infrastructure in Robeson County, why is there no reference to the positive or negative impact of these newly disclosed projects on economic development? There is a significant disjuncture between the statement that the development effects on Robeson County will be limited when the details of new development in the county are much more significant relative to developments in the other counties referenced in the report.

This disjuncture between the stated pattern of major development and the claim of limited impact is of major concern given that Robeson County is the most racially diverse, rural county in North Carolina and the United States, and one of the nation’s poorest. It is also home to the Lumbee Tribe, the largest Native American population East of the Mississippi River. Why has the ACP consistently avoided providing the requested information from the NC Department of Environmental Quality.

A major question and concern in Robeson County as why the additional pipeline to carry ACP gas from Pembroke to Duke Energy’s gas-powered plant in Hamlaet was segmented out of the ACP. It is the same gas and this pipeline utilizes the Pembroke M&R station’s capacities. Even though Hamlet is presently the real terminus of the ACP gas and pipeline, not Pembroke, why has this pipeline been allowed to be segmented out of the

ACP? Is it because this pipeline crosses the Lumber River that is has both state and federal designation as a Natural and Scenic River? Aren't there NEPA regulations that govern the crossing of rivers with these federal designations? Have these regulations, if applicable, been met? If so, under what regulatory power? What amount and percentage of the total ACP gas will be utilized at the Hamlet plant? Will this gas totally replace the gas from Transco that presently feeds the Hamlet Plant. Will ACP gas be fully utilized along the complete Charlotte to Wilmington gas line and connect at Pembroke? If so, what percentage of the total gas in N.C. will be utilized by this pipeline?

The lack of detail and description of the proposed developments in Robeson County further indicate the ACP's avoidance to responsibly provide the specificity of development information and its economic impact, if any, on county-by-county basis that includes every proposed development in all eight impacted counties. Such detail has been repeatedly requested by NC DEQ from September through December 2017.

This pattern of consistently side stepping DEQ requests for development details at specific locations within each county make the need for an additional and more emphatic request for such information from the NC DEQ in 2018 inevitable. It also is grounds for the requests being made for the NC DEQ to hold three public hearings to receive public input and review of the ACP's economic development claims and submissions prior to DEQ's request for further information in early 2018..

7. Recent statements and reports by Dominion executives have said that the pipeline would be extended to South Carolina, following a year of denying such assertions. Officials have acknowledged that to continue the pipeline into South Carolina will require further infrastructure development in North Carolina, implying the construction of a compressor station would be necessary. The ACP report makes no mention of these official statements.

Dominion's misleading and false statements on whether the ACP will be extended into South Carolina are egregious, and constitute a serious breach of faith. Its documented denial of such plans, even after Dominion's leading pipeline official acknowledged them, is evidence of the fraudulent representation of the pipeline by the ACP's owners throughout the entire application process until January 2018. Under mounting pressure and the announcement of Dominion's interest in expanding its business in South Carolina, Dominion officials confirmed these plans. How can the public and our state's public servants trust other Dominion statements on the ACP when Dominion fraudulently misrepresented this extension? In addition, it is not known whether there

are and have been plans, even since the beginning of the ACP design, for the final destination of its gas to be the export station at Elba Island in GA. Perhaps the ACP gas will actually will be used primarily by power plants and industries in South Carolina, or some combination. Dominion owes the ratepayers of North Carolina an explanation. The NC Department of Environmental Quality has specifically asked the ACP these questions and documents state that there were no plans to take the ACP beyond its terminus in Pembroke at the present time.

In September 2017, Dan Weekley, Dominion executive, stated that that the ACP will extend into South Carolina. <http://www.greenvilleonline.com/story/news/local/south-carolina/2017/09/29/disputed-natural-gas-pipeline-likely-expand-sc/716174001/> . In addition, Dominion's recent bid to purchase South Carolina utility SCANA, means that the ACP would "encourage" extension into South Carolina <https://www.bizjournals.com/charlotte/news/2018/01/08/scana-deal-should-encourage-extension-of-the.html> and <https://www.utilitydive.com/news/report-dominion-to-consider-expanding-atlantic-coast-pipeline-into-south-c/506216/>

ACP's continued assertion that the pipeline would not be extended past Robeson County is disingenuous at best, and simple fraud at worst.

An extension of the pipeline into South Carolina -- and possible Georgia -- requires further analysis of the impacts on water bodies. Recent statements from China that they will purchase \$83 billion worth of natural gas from WV support the claim that the gas is intended for export. <https://www.prnewswire.com/news-releases/china-energy-and-west-virginia-announce-framework-to-invest-83-billion-in-shale-gas-and-chemical-manufacturing-projects-300552702.html> The negative impacts of the pipeline on water bodies in NC, SC, and GA will likely not be outweighed by any economic benefits to ratepayers. States will suffer a degradation of its natural resources and major risks to public health and safety while the ACP's shareholders reap all the benefits.

The fact that the plans to consider taking the ACP into South Carolina are now public, the -entire scope and scale of the ACP application has significantly changed. For these reasons alone, North Carolina public officials and lawyers need to consider denying the ACP application on these grounds alone and mandating that the ACP re-apply to both the State and the Federal Government for the ACP that includes its expanded scope and scale. In reality, the present ACP federal and state applications are no

longer valid because they do not adequately and completely describe the full, intended scope and scale of the Atlantic Coast Pipeline and the needed infrastructure to support its new and expanded scope and scale.

The public, particularly consumers of Duke Energy and consumer protection officials within the public and private sector, need to be informed and understand what the exportation of natural gas will mean to the price of gas to all consumers. The more demand that is created for natural gas, the more the price of gas will rise and the amount of available gas will decrease. There is significant risk to our State and all consumers that it is most likely that natural gas will, in perhaps as little as a few years, produce significant “stranded assets”, similar to those now being experienced with nuclear power plants that were partially constructed but never completed and brought online.

8. The ACP response goes into detail on the land use plans in each of the 3 counties, although this is a red herring. Unless the ACP can give concrete examples of how the ACP is going to increase economic development, with the names of companies and the type of facilities that the ACP would bring, it's simply verbiage with no meaning.

9. The ACP response goes into great detail on the current demographics of each of the three counties, but again, this provides zero information on how the ACP will add to economic development. Reciting statistics doesn't mean that ACP has answered the question, but merely evaded the fact that it has nothing substantive to report.

10. The ACP response discusses the fact that each county has electricity, which is obvious; and that some counties already have gas pipelines. Such a statement is irrelevant.

11. The ACP response discusses the fact that these three counties have ample water; again, this is stating the obvious, and doesn't answer the question about how the ACP will increase economic development.

12. The ACP response admits that growth and development would continue in these three counties regardless of whether the ACP is built or not, and that the vast majority of the gas (~80%) would be used for electricity generation, while ~9% would be used by industry, and 9% by residential users. The response states the obvious: that natural gas use has grown by leaps and bounds in NC due to the rapid increase in natural gas fired electricity generation, which grew 417% from 2009-2014. Natural gas-powered electricity is expected to continue to grow in NC, and is displacing much of the coal that's being shut down. (page 15)

13. The ACP response states that the EIA (Energy Information Administration) expects clean energy to grow only 2% per year in NC from 2013 to 2040. That is not acceptable, as natural gas is polluting, and it is known that the carbon of natural gas is now more responsible for global warming than the carbon produced by the burning of coal. Also, it is anticipated that the supplies will be limited in a much shorter timeframe than anticipated or projected, thus raising the cost and risk to consumers

14. The ACP response mentions possible users of gas in Eastern NC, but merely regurgitates a rote list of the types of companies that *might* use gas, such as tire, automotive, paper, chemical, etc (page 16). This is not the detail that is requested by the NC DEQ.

15. The 3 M&R (Metering & Regulating) stations in each of the 3 counties are barely discussed, with very little substantive information given:

- Johnston County: Smithfield M&R
- Cumberland County: Fayetteville M&R
- Robeson County: Pembroke M&R

Information about the M&R stations simply recites the amount of acreage required, with very little information about how the M&R station will actually work, how much fuel it will use, how often it will run, and details about the M&R stations themselves.

ACP response assumes that the M&R stations will, in and of themselves, somehow increase economic development, rather than scare it away through noise, pollution and the huge footprint associated with the station (300-600 acres each) (page 4)

The explanation of the impact of the M&R facilities is wholly inadequate, and only states that it would “provide a connection to an existing power plant.” (page 24) What will the M&R stations run on, natural gas or electricity? How much noise and pollution will each M&R station generate, and how many hours per day, per week and per year will each station run? What are the emissions associated with M&R stations? Why is the M&R Station at Pembroke being proposed and potentially allowed to be placed in a well-populated community in the heart of the Native American community of Prospect?

Two lawsuits have been filed by landowners in Robeson and Cumberland Counties claiming that the Conditional and Special Use Permitting Procedures utilized in these

counties by County Commissioners did not comply with state law. Said counties provided permits to the ACP for M&R Stations while violating the rights of citizens and providing ACP permits when the proposed Stations did not and can not meet all necessary, state permit criteria.

16. The ACP response mentions that stormwater regulations are not uniform in NC, which adds to the confusion in determining whether stormwater plans are adequate.

17. A letter dated 11/28/17 from DEQ (Karen Higgins) to ACP (Ms. Hartz) states that the Indirect and Cumulative Effects (ICE) Screening lacked an analysis of the ACP's ability to stimulate economic growth (page 2, paragraph 1).

18. DEQ's conclusion that the analysis provided by ACP lacked specificity (11/28/17 DEQ letter, page 2), as well as a discussion of the framework needed to protect water quality (11/28/17 letter, page 2) are valid and reliable criticisms of the significant lack in the ACP's response to DEQ's questions.

19. DEQ's guidance says that the ACP's analysis must include a forecast for the affected areas with and without the ACP project; this was not provided (11/28/17 letter, page 2)

20. The ACP does not identify **specific industries that need additional gas capacity as requested by the DEQ.**

21. The ACP's route through southern and southeastern NC is unjust in its impact on low income and racially diverse communities.

22. The 12/20/17 ACP Response Brings Up More Questions Than It Answers

(a) More information about storage tanks at gas facilities is needed:

- How many tanks will be at each compressor station? Please answer for EACH compressor station.
- What will be stored in each tank?
- What are the rules governing storage of hazardous materials in these tanks?
- What are the hazards of this type of storage, leaking, explosion, etc.?

(b) More information about "taps" is needed:

- Explain what a tap does, how it works
- Detail how many taps will be in each county and their purpose and use.

- What will be the impact of additional infrastructure developed in the utilization of each tap on water sources, resources, and quality?
- What taps will supply existing gas powered plants and what percentage of the total gas be utilized by each energy center?
- What taps will supply newly constructed gas-powered plants? Where are these to be located? What will the impact of such plants be on water quality and air quality, particularly their impact on the agriculture industry?

16. In addition, a 13-page report dated December 5, 2017 by Applied Economics Clinic, and commissioned by the Natural Resources Defense Council found the following:

(a) The 2015 ICF International report commissioned by the ACP to justify the building of both the Mountain Valley Pipeline and the ACP, as well as a report by Chmura, each have serious flaws, detailed below.

(b) The Applied Economics study found the underlying assumptions used by both ICF and Chmura to be unsupported by facts.

(c) The substantial “savings” that ICF/Chmura assert will benefit ratepayers by using the ACP rather than the current Transco pipeline is based on a large price differential between gas provided by the ACP versus gas provided by the Transco pipeline. This is simply not true. **Using Dominion’s own data**, Dominion customers may actually **pay \$1.61 to \$2.36 billion more for gas delivered via the ACP over 20 years**. ICF forecasts a price differential of \$1.61/MMBtu on average, whereas EIA data shows that the price differential between Henry Hub and the Dominion South hub was only 49 cents/MMBtu, a reduction of 73% of ICF’s claim.

(d) The increase in future **demand for electricity** is far lower than the ICF/Chmura reports claim, i.e. both Dominion and Duke Energy are reducing future demand forecasts in most recent Integrated Resource Plans (IRPs) to 0.4% and 0.6%, as well as reducing the total amount of natural gas power plants expected to be built.

(e) Job growth claims resulting from the ACP are neither valid nor reliable as is also acknowledged by the 12/20/17 letter from the ACP to the NC DEQ.

(f) ICF/Chmura’s claim that the ACP would lead to more manufacturing jobs is utterly unsupported by data. ICF says that the ACP will reduce the cost of electricity, whereas, in fact, no one knows this since the cost of natural gas fired electricity is largely

determined by the cost of the natural gas fuel. The Applied Economics Clinic shows that there is no relationship between ICF's thin claim that ACP-induced falling electricity prices will increase jobs.

CONCLUSION

By its own admission, Dominion and Duke are placing unprecedented political pressure state officials and agencies to approve the Atlantic Coast Pipeline (ACP). As a part of its review of the ACP's 401 Water Quality Permit Application, the NC Department of Environmental Quality (DEQ) has repeatedly asked Dominion and Duke Energy to provide detailed information on their claims that the ACP will provide economic development to poverty-stricken Eastern North Carolina. This claim of economic benefit has been the major rationale and justification used by the ACP and its supporters in marketing, lobbying, and advocating for the proposed pipeline. In spite of DEQ's continuous requests for detailed proof of the pipeline's economic value in proposed host counties, Dominion and Duke have provided no substantial information to support their assertions. The ACP's documented responses to our State's repeated requests have been met with avoidance, evasion, and side stepping all of DEQ's requests since September 2017.

Governor Cooper has publicly expressed and reiterated his strong opposition to oil drilling off the North Carolina shore. His strong commitment to protect our coastal communities of wealth and favor has not been equaled by a commitment to protect our state's most vulnerable environment and populations from an even greater threat to human health and safety – the proposed Atlantic Coast Pipeline.

In light of DEQ's requests and the ACP's multiple submissions that have not provided direct and detailed evidence of its economic benefit, public hearings in the three most impacted counties are needed and necessary. Public hearings will provide broad public exposure to the ACP's claims of economic development and offer the public opportunities to respond with questions, concerns, support, opposition, and suggestions. Public input on these critical issues will assist the NC DEQ in framing its final questions regarding economic development and an additional attempt to access the details needed to make an informed and fair assessment of the economic development impact, or lack thereof, of the Atlantic Coast Pipeline.

Along with DEQ staff, public hearings in Robeson, Cumberland, and Johnston Counties will provide opportunities for NC Governor Cooper, his staff, and the staff of the NC Attorney General to attend three public hearings and hear the local, regional, and statewide concerns regarding the economic development claims and official documents of the ACP that have been

submitted to the NC Department of Environmental Quality. These hearings, along with the filing of public comments such as this report, will assist the NC Department of Environmental Quality in developing and submitting a request for additional information from the ACP in early 2018. It is hoped that as a result of such a request, the NC DEQ will finally receive details to the stated, unanswered questions regarding the specific economic development plans of the Atlantic Coast Pipeline. With public and expert input on these critical questions and concerns and, if the ACP will be forthcoming with needed detail, the NC DEQ will finally be able to make an informed decision on the 401 Water Quality Application of the Atlantic Coast Pipeline.

ADDITIONAL ECONOMIC AND ENVIRONMENTAL CONCERNS RELATED TO THE ATLANTIC COAST PIPELINE

Increasing the use of natural gas in North Carolina will only add to our long-term energy vulnerability, since all gas comes in from hundreds of miles away via pipeline:

- **Pipelines leak dangerous, climate-wrecking methane; and can crack, explode, or be damaged by natural disasters such as hurricanes.**
- **The ACP will only serve to *increase* our dependence on a finite, polluting fossil fuel that North Carolinians spent \$1.3 billion on in 2015 for natural gas fired electricity alone.¹**
- **Duke Energy and Dominion Would Be Both Buyers and Sellers of Gas From the ACP, Locking Out Competition.** It's clear that Duke Energy and Dominion have financial incentives to prioritize its affiliate-owned pipeline that will carry fracked gas to overbuilt new gas power plants. This harms both ratepayers and investors by locking in higher-priced, polluting natural gas for the next thirty years, rather than investing in clean energy or efficiency. The fact that the same utilities are on each side of the buy-sell equation is recognized by former FERC Chair Norman Bay, and he notes that when "need" is established by parties that are both buyer and seller, there's a question of whether "need" actually exists.
- **Glut of Power in North Carolina and the Southeast.** The ACP would facilitate the overbuilding of natural gas power plants, shutting out clean energy alternatives, while ignoring the abundant supply already available.

¹ https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_ex_eu.html&sid=US

- **Building the \$5.5 Billion ACP Could Result in Stranded Assets.** In an era of rapidly changing markets, the ACP is a poorly thought-out, \$5.5 billion boondoggle that could easily become a stranded asset. Three of the largest utilities in the U.S. and Southeast -- Duke Energy, Dominion and Southern Company -- are pushing through a pipeline and associated power plants that are expected to run -- and be paid for by ratepayers -- for the next 30 years.
- **Shale Gas Is In Serious Decline, With Many Plays Already Peaking.** The decline rate for U.S. shale is 75-85% over the first three years of the play. The EIA's magical thinking that U.S. shale gas production will continue to increase for the next 3 decades, with prices staying at \$5/MMBtu from 2025 until 2040 is not just foolish, but dangerous.
- **Shale Gas Is Being Sold for Less Than The Cost of Production, Resulting in Many Oil and Gas Bankruptcies.** The increasing number of oil and gas bankruptcies bear out Art Berman's assertion that gas is being sold for less than the cost of production, and that the current glut in cheap shale gas is temporary.
- **Life-Cycle Emissions of the ACP are Equal to the Emissions of 20 Coal Plants.** The ACP would be a climate disaster, and an exhaustive study by Oil Change International shows that the life-cycle emissions of the ACP would be 68 million metric tons per year, equal to 20 coal plants. The applicants and FERC refuse to recognize that methane's effect on the climate is 86-100 times worse than CO2. Methane leakage from the production of natural gas could be as high as 12%, according to Cornell University's Dr. Robert Howarth.
- **Duke Energy and Dominion have actively worked to limit clean energy** by lobbying at the state and federal levels for laws and rules that stifle clean energy rather than foster competition, and provide North Carolinians with cleaner air and water, as well as put off addressing the serious problem of climate change.

The Southeastern U.S. is Overbuilding Pipelines

The ACP appears to ignore solid evidence that pipeline capacity from the Marcellus and Utica shale plays are overbuilt, in other words, there are "too many straws in the milkshake." Approval of the ACP depends on 20-year affiliate-backed contracts to support the new pipeline capacity. A September 2016 study by Synapse Energy Economics shows existing pipeline capacity, gas storage, along with the expected reversal of flow of gas will provide more than

enough gas to cover needs in the Carolinas.² (The Transco pipeline in North Carolina is expected to change the flow of direction, from the current south-to-north, i.e. from the Gulf to New York and beyond, to north-to-south, i.e. Marcellus shale gas from WV, PA to flow south.)

The Synapse study points out the huge market distortion due to Duke Energy's massive build-out of natural gas power plants, increasing the current 10,000 MW of gas plants in Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) territory by another 7,900 MW from 2017 through 2031.³ These behemoth gas plants will lock ratepayers into paying for these plants for 30 years or more -- unless, of course, the cost of natural gas is prohibitively expensive, or it simply isn't available.

Even industry insiders like Kelcy Warren, CEO of Energy Transfer Partners, recognizes that pipeline builders are likely to overbuild.⁴ Other industry leaders, such as natural gas consultant Rusty Braziel, recognize and acknowledge that current expansion plans will likely result in overbuilding, as evidenced by this graph from Bloomberg New Energy Finance. Braziel reports that gas pipeline capacity will exceed the gas production in Appalachia starting in late 2017.⁵

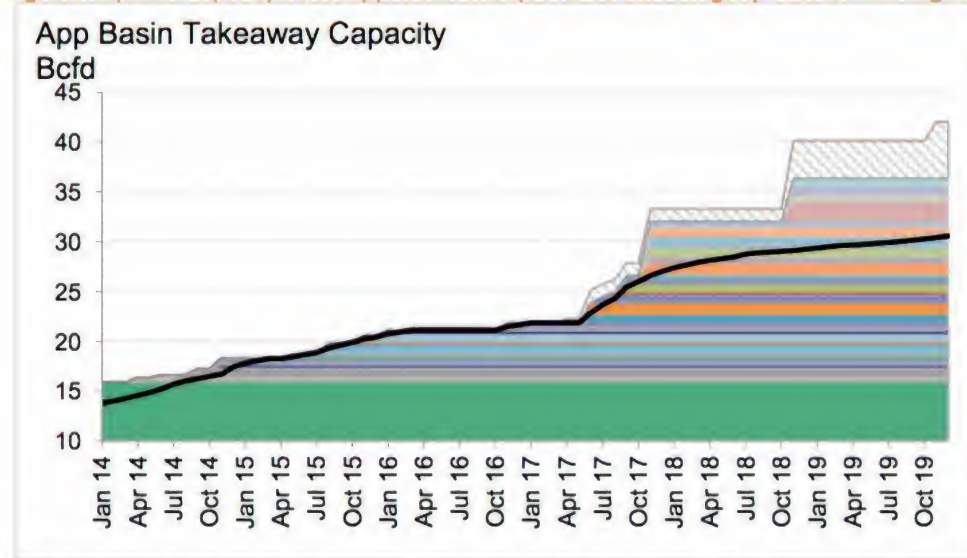
² https://www.southernenvironment.org/uploads/words_docs/2016_09_12_Synapse_Report_-_Are_the_ACP_and_MVP_Necessary_FINAL.PDF

³ See Direct Testimony of Swati V. Daji in North Carolina Utilities Commission Docket No. E-100, Sub 147, filed February 16, 2017, www.ncuc.net

⁴ <http://ieefa.org/wp-content/uploads/2016/04/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-April-2016.pdf>, page 1.

⁵ <https://about.bgov.com/blog/new-barrier-pipelines-path-brutal-economics/>

Figure 3. Pipeline capacity out of Appalachia is expected to exceed gas production starting in 2017.



Source: Bloomberg New Energy Finance, 2016. The black line represents expected production and the bars represent planned capacity. Billion cubic feet per day (Bcfd).

The nearly \$6 billion ACP will not be worth much if there isn't enough gas to ship to the power plants, or if the gas is so expensive that customers flee to cheaper renewable energy, which has zero fuel costs and zero risk of fuel cost increases. Many billions of dollars worth of pipelines and power plants could become stranded assets. A recent report shows this could easily happen in the Northeastern U.S., where overbuilt pipelines could cost ratepayers an additional \$277 million over its lifetime.⁶

The Utilization of Existing Pipelines in North Carolina is 37%; U.S. Pipelines: 54%

There is a lot of room to utilize existing pipelines more efficiently. Jonathan Peress of the Environmental Defense Fund (EDF) points out that there are signs that a gas pipeline bubble is forming. This bubble would impose unnecessary costs on consumers, and constrain the development of cleaner, cheaper sources of electricity such as wind and solar. IEEFA also reports that current utilization of pipelines for gas flowing into North Carolina is 37%.⁷

⁶ <http://www.utilitydive.com/news/new-report-questions-need-cost-of-access-northeast-gas-pipeline-project/436228/>

⁷ <http://ieefa.org/wp-content/uploads/2016/04/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-April-2016.pdf>, page 13, and U.S. EIA, "International & Interstate Movements of Natural Gas By State," 2016 online at http://www.eia.gov/dnav/ng/ng_move_ist_a2dcu_nus_a.htm ; U.S. EIA, "U.S. State to State Capacity," online at <http://www.eia.gov/naturalgas/pipelines/EIA-StatetoStateCapacity.xls>, and <http://southeastenergynews.com/2016/11/14/advocates-ratepayers-will-be-on-the-hook-for-unnecessary-pipelines/>

According to the U.S. Department of Energy (DOE), average capacity utilization for gas interstate pipelines from 1998 to 2013 was only 54%.⁸

Peress also points out that there is a big difference between market participants and captive ratepayers financing these huge, expensive projects. When market participants finance expensive pipelines, they understand the risk, whereas ratepayers have no choice but to pay. The environmental damages from drilling and shipping fracked gas are also borne by citizens, and are not even considered by pipeline builders Duke Energy and Dominion.

⁸ *Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector*, February 2015, <http://wp.vasierraclub.org/LetterInFull.pdf> page 2 of testimony of N. Jonathan Peress, June 14, 2016, Before the Senate Energy and Natural Resources Committee